

## INJECTION WELL PERMIT APPLICATION: to drill, deepen, plug back, or convert an existing well

APPLICATION TO DRILL ☒ DEEPEN ☐ PLUG BACK ☐ CONVERSION ☐NAME OF COMPANY OR OPERATOR Town Oil Company DATE 3-2-84Rt. 4 Address Paola City KS State

## DESCRIPTION OF WELL AND LEASE

Name of lease <u>Walton</u>		Well number <u>24-W</u>	Elevation (ground)
WELL LOCATION (give footage from section lines) <u>1121</u> ft. from (N) <del>XX</del> sec line <u>2404</u> ft. from <del>XX</del> (W) sec line			
WELL LOCATION Section <u>4</u> Township <u>46</u> Range <u>33</u>		COUNTY <u>Cass</u>	
Nearest distance from proposed location to property or lease line <u>10</u> feet Distance from proposed location to nearest drilling, completed or applied - for well on the same lease <u>215</u> feet			
Proposed depth <u>600'</u>	Rotary or Cable tools <u>Rotary</u>	Drilling Contractor, name and address <u>Company Tools</u>	Approx. date work will start <u>When approved.</u>
Number of acres in lease <u>Approx 85</u>	Number of wells on lease, including this well, completed in or drilling to this reservoir: _____ Number of abandoned wells on lease: _____		
If lease purchased with one or more wells drilled, from whom purchased? Name <u>Harry Knoche</u> Address <u>Belton, MO</u>		No of Wells: producing _____ injection _____ inactive _____ abandoned _____	
Status of Bond Single Well <input type="checkbox"/> Amt. _____		Blanket Bond <input checked="" type="checkbox"/> Amt. <u>20,000</u> <input checked="" type="checkbox"/> ON FILE <input type="checkbox"/> ATTACHED	
Outline Proposed Stimulation Program <u>Water injection and secondary recovery</u>			
Proposed casing program amt. <u>600'</u> size <u>2"</u> wt/ft <u>3.75</u> cem. <u>to surface</u>		Approved casing - To be filled in by State Geologist amt. <u>600</u> size <u>2"</u> wt/ft <u>3.75</u> cem. <u>to surface</u>	
I, the undersigned, state that I am the <u>Partner</u> of the <u>Town Oil Co.</u> (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge. Signature <u>Michael J. Town</u>			

Permit Number #20434Approved Date 4/24/84Approved by Wallace B. Hines

Note: This Permit not transferable to any other person or to any other location

☒ SAMPLES REQUIRED☐ SAMPLES NOT REQUIRED

WATER SAMPLES REQUIRED @

APR 09 1984Remit two copies to: Missouri Oil and Gas Council  
P.O. Box 250, Rolla, MO 65401  
One will be returned for driller's signature

Approval of this permit by the Oil and Gas Council does not constitute endorsement of the geologic merits of the proposed well nor endorsement of the qualifications of the permittee.

3/12/82

I Lester Town of the Town Oil Co.  
Company confirm that an approved drilling permit has been obtained by the owner of this well. Council approval of this permit will be shown on this form by presence of a permit number and signature of authorized Council representative.

Driller's signature

Date 3-2-84

### Proposed Operations Data

Proposed average daily injection, pressure 400 psig, rate 25 bpd/gpm, volume 300 bbl/gal  
Approved average daily injection, (to be filled in by State Geologist). pressure 400 psig, rate 25 bpd/gpm, volume 300 bbl/gal  
Proposed maximum daily injection, pressure 700 psig, rate 50 bpd/gpm, volume 1000 bbl/gal  
Approved maximum daily injection, (to be filled in by State Geologist). pressure 600 psig, rate 50 bpd/gpm, volume 1000 bbl/gal

Estimated fracture pressure/gradient of injection zone breakdown 800 psi/foot

Describe the source of the injection fluid produced and fresh water

Submit an appropriate analysis of the injection fluid. (Submit on separate sheet).

See enclosed water analysis report

Describe the compatibility of the proposed injected fluid with that of the receiving formations, including total dissolved solids comparisons.

Same

Give an accurate description of the injection zone including lithologic descriptions, geologic name, thickness, depth, porosity, and permeability.

See the enclosed driller's log, gamma ray and core analysis

Give an accurate description of the confining zones including lithologic description, geologic name, thickness, depth, porosity, and permeability.

See the enclosed driller's log, gamma ray and core analysis

Submit all available logging and testing data on the well.

Give a detailed description of any well needing corrective action which penetrates the injection zone in the area of review (½ mile radius around well). Include the reason for and proposed corrective action.

None

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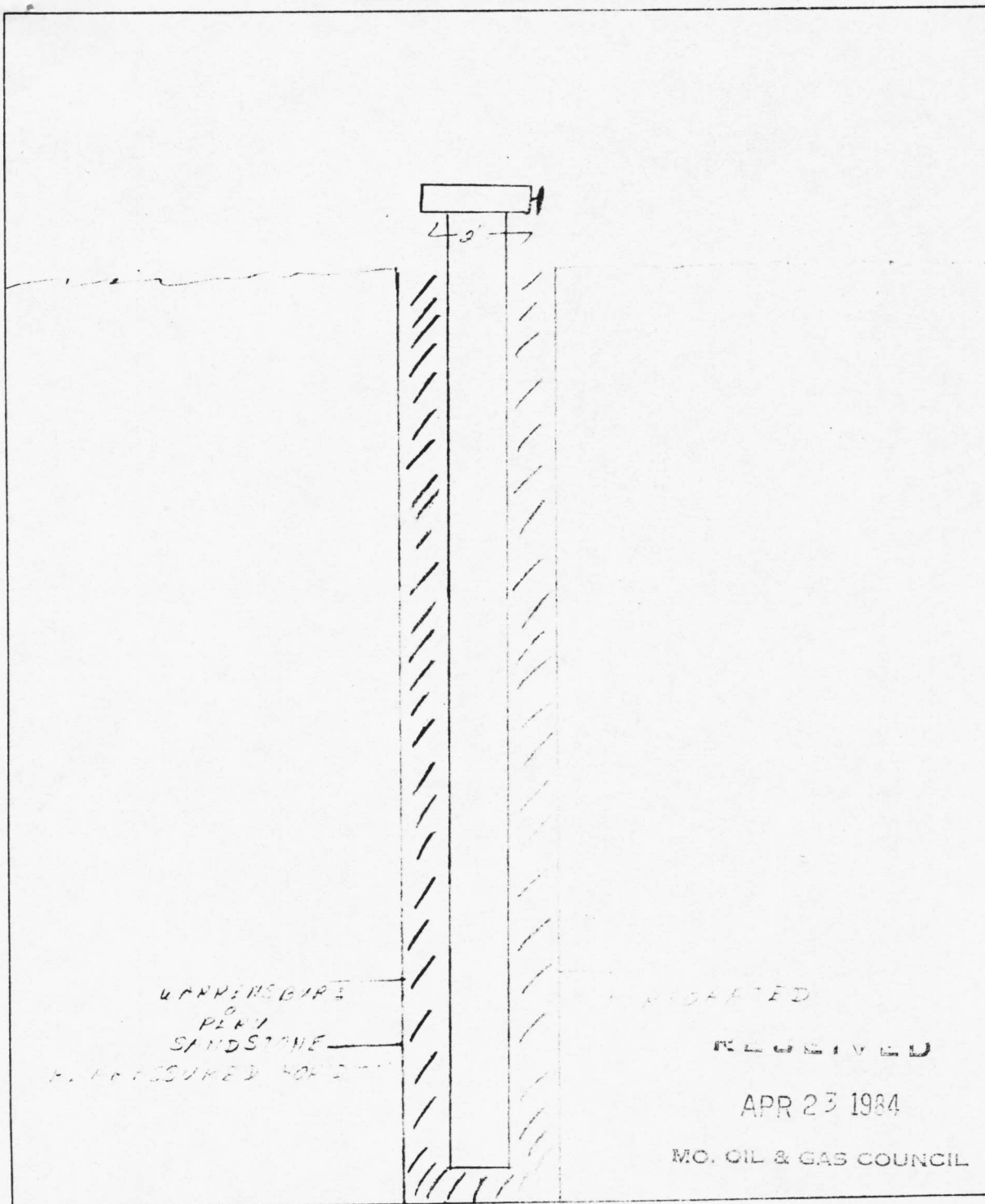
APR 09 1984

MO. OIL & GAS COUNCIL

#20434

Missouri Oil and Gas Council  
INJECTION WELL SCHEMATIC

Form OGC-11



**Instructions**

On the above space draw a neat accurate schematic diagram of the applicant injection well including the following: configuration of well head, total depth or plug back total depth, depth of all injection or disposal intervals, and their formation names, lithology of all formations penetrated, depths of the tops and bottoms of all casing and tubing, size and grade of all casing and tubing, and the type and depth of packer, depth, location, and type of all cement, depth of all perforations and squeeze jobs, and geologic name and depth to bottom of all underground sources of drinking water which may be affected by the injection. Use back if additional space is needed, or attach sheet.

Area of Review Wells (1/2 mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Perforated	Completed	Construction
Beary	54A	165' from (N) 150 sec. line 1652.25h (E) 1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	0	1/81	1/81	Surface 9" hole 7" casing 20.583' Production 6 1/4" hole 4" casing 629.80'
Beary	54C	546.4' from (N) 150 sec. line 1652.2' from (E) 1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	0	12/80	12/80	Surface 9" hole 7" casing 21.583' Production 6 1/4" hole 4" casing 630.6'
Beary	54C1	546.6' from (N) 150 sec. line 1652.2' from (E) 1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	520	0	1/81	1/81	Surface: 9" hole 7" casing 21.67' Production 6 1/4" hole 4" casing 462.50'
Beary	54E	930.2' from (N) 150 sec. line 1652.2' from (E) 1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	0	1/81	1/81	Surface 9" hole 7" casing 20.75' Production: 6 1/4" hole 4" casing 628.35'
Beary	B-55	355' from (N) 150 sec. line 1542' from (E) 1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	640	0	1/81	1/81	Surface 9" hole 7" casing 21.42' Production 6 1/4" hole 4" casing 628.70'
		from (N) 150 sec. line from (E) 1W sec. line Sec. T. N. R.						
		from (N) 150 sec. line from (E) 1W sec. line Sec. T. N. R.						
		from (N) 150 sec. line from (E) 1W sec. line Sec. T. N. R.						

Attach additional sheets if necessary

**Instructions**

In the above grid place the descriptions of area of review wells (1/2 mile radius around well) of public record that penetrate the proposed injection zone. Complete the following: lease name, well number, location, owner, depth in feet, type of well (Oil = O, Gas = G, Water = W, Injection = I, Strat Test = S, Unknown = U, Other = specify), date spudded, date completed, and construction of the well. Give a brief but accurate description of the well's construction including all plugging and/or completion information, detailing the cement, casing, and subsurface casing information.

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**Area of Review Wells (1/2 mile radius around well) that Penetrate the Injection Interval**

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Walton	5W	1201' from (N) (S) sec. line 2200' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	600	0	2/82	2/82	Surface: 9" hole 6 3/4" casing 20.9' Production: 5 1/8" hole 2" casing 592'
Walton	6W	1555' from (N) (S) sec. line 2330' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	593	0	9/77	9/77	Surface: 6 3/4" casing 20' Production: 2" casing 573'
Walton	8W	1580' from (N) (S) sec. line 1595' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	614	0	9/77	9/77	Surface: 6 3/4" casing 18' Production: 2" casing 612'
Walton	20	2229' from (N) (S) sec. line 2383' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	550	0	2/76	2/76	Surface: 8" hole 8" casing 20' Intermediate 8" hole 6 3/4" casing 456' Producing: 6 3/4" hole 4 1/2" casing 535'
Walton	22	1413' from (N) (S) sec. line 1775' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	594	0	8/76	8/76	Surface 8" hole 8" casing 23' Production: 6 3/2" hole 4 1/2" casing 570'
Walton	24	164' from (N) (S) sec. line 2505' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	620	0	1/81	1/81	Surface: 8 5/8" hole 6 3/4" casing 21' Production: 5 3/4" hole 2" casing 620'
Walton	25	165' from (N) (S) sec. line 2835' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	620	0	11/80	11/80	Surface 8 5/8" hole 6 3/4" casing 21' Production: 5 3/4" 2" casing 610'
Walton	26	165' from (N) (S) sec. line 2140' from (E) (W) sec. line Sec. 4 T. 46 N. R. 33W	Town 011	620	0	10/80	10/80	Surface: 8 5/8" hole 6 3/4" casing 22' Production: 5 3/4" hole 2" casing 600'

Attach additional sheets if necessary

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**Area of Review Wells (1/2 mile radius around well) that Penetrate the Injection Interval**

Lease	Well #	Location	Owner	Depth	Type	Spudded Date	Completed Date	Construction
Walton	29	495' from (N)130 sec. line 2140' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Town 011	608	0	9/77	10/77	Surface: 7" casing 74' Production: 4" casing 596'
Walton	31	1261' from (N)130 sec. line 1517' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Town 011	590	0	1/81	2/81	Surface: 8 5/8" hole 6 1/4" casing 21' Production: 5 1/4" hole 2" casing 502'
Walton	32	1258' from (N)130 sec. line 1847' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Town 011	600	0	2/82	2/82	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/8" hole 2" casing 588.05'
Walton	37	2221' from (N)130 sec. line 1518' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Town 011	595	0	3/82	3/82	Surface: 9" hole 6 1/4" casing 20.5' Production: 5 1/8" hole 6 1/4" casing 595.20'
Asjes	C-4	547' from (N)130 sec. line 882' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	639	0	11/81	11/81	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/4" hole 2" casing 640'
Asjes	C-6	547' from (N)130 sec. line 559' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	634	0	7/81	7/81	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/4" hole 2" casing 636.5'
Asjes	C-8	547' from (N)130 sec. line 18' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	670	0	7/81	7/81	Surface: 9" hole 6 1/4" casing 22' Production: 5 1/4" hole 2" casing 660'
Asjes	C-10	54' from (N)130 sec. line 159' from (E)1W sec. line Sec. 4 T. 46 N. R. 33W	Emery Energy	636	0	9/81	9/81	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/4" hole 2" casing 636.5'

Attach additional sheets if necessary

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# Area of Review Wells (1/2 mile radius around well) that Penetrate the Injection Interval

Lease	Well #	Location	Owner	Depth	Type	Date Spudded	Date Completed	Construction
Asjes	E-4	812' from (N)(S) sec. line 882' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33N	Emercy Energy	629	0	11/81	11/81	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/4" hole 2" casing 640'
Asjes	G-2	1306.5' from (N)(S) sec. line 1187.5' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	669.4	0	11/81	11/81	Surface: 9" hole 6 1/4" casing 20' Production: 5 1/4" hole 2" casing 670'
Asjes	G-4	1303' from (N)(S) sec. line 972' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	666.0	0	11/81	11/81	Surface: 9" hole 6 1/4" casing 17.6' Production: 5 1/4" hole 2" casing 670'
Beary	A-52	165' from (N)(S) sec. line 1872' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	642	0	1/81	1/81	Surface: 9" hole 7" casing 21' Production 6 1/4" hole 4" casing 628.4'
Beary	52C	546.46' from (N)(S) sec. line 1872.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	640	0	1/81	1/81	Surface: 9" hole 7" casing 35' Production: 6 1/4" hole 4" casing 627.80'
Beary	E-52	927.92' from (N)(S) sec. line 1872.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	641	0	1/81	1/81	Surface: 9" hole 7" casing 21.853' Production: 6 1/4" hole 4" casing 628.35'
Beary	53B	355.78' from (N)(S) sec. line 1762.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	640	0	1/81	1/81	Surface: 9" hole 7" casing 21.583' Production: 6 1/4" hole 4" casing 630.85'
Beary		738.19' from (N)(S) sec. line 1762.25' from (E)(W) sec. line Sec. 4 T. 46 N. R. 33W	Emercy Energy	640	0	1/81	1/81	Surface: 9" hole 7" casing 20.9' Production: 6 1/4" hole 4" casing 627.5'

Attach additional sheets if necessary

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Walter L. L. L.

# PUBLIC NOTICE

Town Oil Company, Rt. 4, Paola, Kansas has applied for injection wells to be drilled to an approximate depth of 600 feet at the following locations:

No.	Distance from North Line of Section	Distance from East or West Line of Section
4W	965'	2514' E
7W	1607'	2050' E
9W	2025'	2341' E
10W	2080'	2667' E
11W	1100'	1682' E
12W	1740'	1683' E
13W	2060'	1683' E
14W	2413'	1683' E
15W	2417'	1358' E
16W	2067'	1358' E
17W	1747'	1358' E
18W	1427'	1357' E
19W	1102'	1357' E
20W	847'	2044' E
21W	330'	2043' E
22W	648'	2362' E
23W	648'	2679' E
24W	1121'	2404' W
25W	1275'	2696' E
26W	1545'	2180' W
27W	1860'	2685' W
28W	2399'	2538' W
29W	2400'	2507' E
30W	2406'	2167' E
31W	2395'	2185' W
32W	2105'	2250' W
33W	1860'	2425' W
34W	648'	2409' W
35W	330'	2413' W
36W	30'	2416' W
37W	30'	2679' E
38W	30'	2360' E
39W	30'	2042' E

of Section 4, Township 46, Range 33, in Cass County, Missouri.

Written comments or request for additional information regarding such wells should be directed within fifteen (15) days of this notice to:

State Geologist  
Missouri Oil and Gas Council  
P.O. Box 250  
Rolla, Missouri 65401

36-1c

## AFFIDAVIT OF PUBLICATION

RI SS.

ing duly sworn according to law, says that he is the ton-Raymore Star-Herald, a weekly newspaper of printed and published continuously for a period ears in the County of Cass, State aforesaid; and r has complied with the provisions of the Laws Page 431; and that the notice hereto annexed was er for ..... weeks consecutively, as follows:

92 No. 36 dated 1/26/84

..... No. .... dated ....., 19.....

..... No. .... dated ....., 19.....

..... No. .... dated ....., 19.....

..... No. .... dated ....., 19.....

..... No. .... dated ....., 19.....

200

*Joseph M. L. L.*  
Publisher  
n to before me this 27th day of Jan

icial seal.

*Reggie L. L.*  
Notary Public

RECEIVED

FEB 03 1984

M.O. OIL & GAS COUNCIL





# REPORT OF WATER ANALYSIS

Company Town Oil Company

Date 5-4-81

Analysis No.

Sampling Date 5-3-81

Date Sample Rec'd.

Sample Marked Walton

## DISSOLVED SOLIDS

Cations	mg/l	meq/l
Sodium, Na (Calc.)	6,969	303
Calcium, Ca	560	28
Magnesium, Mg	194	16
Barium, Ba	5	0
Cations Total	7,728	347

## RESULTS AS COMPOUNDS

	mg/l
as NaCl	
as CaCO <sub>3</sub>	1,400
as CaCO <sub>3</sub>	800
as BaSO <sub>4</sub>	9

Anions	mg/l	meq/l
Chloride, Cl	11,897	336
Sulfate, SO <sub>4</sub>	0	0
Carbonate, CO <sub>3</sub>	0	0
Bicarbonate, HCO <sub>3</sub>	688	11
Anions Total	12,585	347

as NaCl	19,600
as Na <sub>2</sub> SO <sub>4</sub>	0
as CaCO <sub>3</sub>	0
as CaCO <sub>3</sub>	564

Total Dissolved Solids (Calc.)	20,313
Total Iron, Fe	.15
Acidity to Phenolphthalein, CO <sub>2</sub>	95

as Fe	.15
as CaCO <sub>3</sub>	216

## OTHER PROPERTIES

pH	7.9
Specific Gravity	1.003
Turbidity (JTU)	

## CaCO<sub>3</sub> STABILITY INDEX

@ 70° F.

@ 120° F.

@ 160° F.

Method of Stiff & Davis

Remarks:

**NALCO CHEMICAL COMPANY**  
**VISCO CHEMICALS**

P O BOX 87 • SUGAR LAND, TEXAS 77478